

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1.-21. (Canceled)

22. (Currently amended) A method of removing residue from a substrate processing chamber, said method comprising the steps of:

- forming a plasma remotely with respect to said chamber, said plasma including a plurality of reactive radicals;
- forming a flow of said reactive radicals traversing toward said chamber;
- forming a nonplasma diluent gas flow, wherein said nonplasma diluent gas flow comprises at least one of an inert gas or a reduction gas;
- mixing said flow of said reactive radicals and said diluent gas flow at a mixing location downstream of a location of forming said flow of said reactive radicals and anterior to said chamber to form a gas-radical mixture; and
- flowing said gas-radical mixture into said chamber **to remove residue from within said chamber,**  
**wherein each step of the method occurs without a wafer in said chamber.**

23. (Previously Presented) The method as recited in claim 22 wherein said flow of reactive radicals and said gas flow are established to maintain a pressure within said chamber below one torr.

24. (Previously Presented) The method as recited in claim 22 wherein said reactive radicals comprise atoms associated with a reactive gas, with said reactive gas being selected from a group consisting of NF<sub>3</sub>, dilute F<sub>2</sub>, CF<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>, C<sub>3</sub>F<sub>8</sub>, SF<sub>6</sub>, and ClF<sub>3</sub>.

25.-26. (Canceled)

27. (Previously Presented) The method as recited in claim 22 wherein said chamber has components therein, with a subset of said radicals in said gas-radical mixture reacting with said components creating a residue and further including the step of exhausting

said residue, with a rate at which said residue is exhausted depending upon a rate of said diluent gas flow.

28. (Previously Presented) The method as recited in claim 22 wherein said diluent gas flow travels at a first rate and said flow of said reactive radicals travel at a second rate with a ratio of said first rate to said second rate being at least 2:1.